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TITLE: NONAQUEOUS ELECTROLYTE FOR LITHIUM SECONDARY  
BATTERY

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ABSTRACT:

PURPOSE: To provide a nonaqueous electrolyte for a lithium secondary battery  
in which charge-discharge performance of a lithium electrode is good by using a nitrobenzene derivative as an additive of an nonaqueous electrolyte.

CONSTITUTION: In a nonaqueous electrolyte prepared by dissolving a lithium salt in an organic solvent, a nitrobenzene derivative is used as an additive of the electrolyte. By adding the derivative, charge-discharge performance of a lithium electrode is increased. Although the reason is not always clear, it

presumes that when an aromatic nitrocompound is added, a Li<sup>+</sup> ion conductive film is formed on the lithium surface and this film effectively acts in charge-discharge performance of a Li electrode. As effective nitrocompounds, 2,4,7-trinitro-9-fluorenone, nitramine, or 5-nitrobenzotriazole is used. 10<sup>-1</sup> mol/l or less of a nitrobenzene is preferably added. Addition of more than 10<sup>-1</sup> mol/l decreases charge-discharge performance of the Li electrode.

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